

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claim 1 (original): An apparatus for producing carbonated water, comprising:
carbon dioxide gas supplying means;
water supplying means and/or water circulating means;
a first carbon dioxide gas dissolver connected to the carbon dioxide gas supplying means and the water supplying means and/or the water circulating means; and
a second carbon dioxide gas dissolver connected to a carbonated water discharging side of the carbon dioxide gas dissolver.

Claim 2 (original): The apparatus for producing carbonated water according to claim 1, wherein the carbon dioxide gas supplying means is connected to only the first carbon dioxide gas dissolver.

Claim 3 (currently amended) The apparatus for producing carbonated water according to claim 1 ~~or 2~~, wherein the first carbon dioxide gas dissolver includes a membrane module.

Claim 4 (original): The apparatus for producing carbonated water according to claim 3, wherein the membrane module includes a hollow fiber membrane.

Claim 5 (original): The apparatus for producing carbonated water according to claim 4, wherein the hollow fiber membrane is a three-layer composite hollow fiber membrane in which both faces of a thin non-porous gas permeation layer are sandwiched by porous layers.

Claim 6 (currently amended): The apparatus for producing carbonated water according to any one of claims ~~1 to 5~~ wherein the second carbon dioxide gas dissolver includes a static mixer.

Claim 7 (original): The apparatus for producing carbonated water according to claim 6, wherein the static mixer is a stator type and/or a Kenics type.

Claim 8 (currently amended): The apparatus for producing carbonated water according to claim 6 ~~or 7~~, wherein a number of elements in the static mixer is 5 to 100.

Claim 9 (currently amended): The apparatus for producing carbonated water according to ~~any one of claims 6 to 8~~, wherein an element diameter of the static mixer is 5 to 100 mm.

Claim 10 (currently amended): The apparatus for producing carbonated water according to ~~any one of claims 1 to 9~~, wherein carbon dioxide gas flow rate control means is disposed in a downstream of the carbon dioxide gas supplying means and in an upstream of the first carbon dioxide gas dissolver.

Claim 11 (original): The apparatus for producing carbonated water according to ~~any~~

~~one of~~ claims 1 to 10, wherein water flow rate control means is disposed in an upstream of the first carbon dioxide gas dissolver.

Claim 12 (currently amended): The apparatus for producing carbonated water according to ~~any one of~~ claims 1 to ~~11~~, wherein a pressure increasing pump is disposed in an upstream of the first carbon dioxide gas dissolver.

Claim 13 (currently amended): The apparatus for producing carbonated water according to claim 12, wherein a start/stop flow switch of the pressure increasing pump is disposed in a line of the carbonated water producing apparatus, through which water or carbonated water passes.

Claim 14 (currently amended): The apparatus for producing carbonated water according to ~~any one of~~ claims 1 to ~~13~~, wherein a liquid-vapor separator for separating carbonated water and non-dissolved carbon dioxide gas is disposed in a downstream of the second carbon dioxide gas dissolver.

Claim 15 (original): The apparatus for producing carbonated water according to claim 14, wherein a bubble sensor is disposed in the downstream of the liquid-vapor separator.

Claim 16 (original): The apparatus for producing carbonated water according to claim 15, wherein the bubble sensor is of ultrasonic type.

Claim 17 (currently amended): The apparatus for producing carbonated water

according to ~~any one of~~ claims 1 to 16, further comprising a carbon dioxide gas concentration sensor and/or an oxygen concentration sensor.

Claim 18 (original): A method for producing carbonated water comprising steps of: supplying water and carbon dioxide gas to a first carbon dioxide gas dissolver; and supplying obtained carbonated water to a second carbon dioxide gas dissolver.

Claim 19 (original): The method for producing carbonated water according to claim 18, wherein water is passed through the first carbon dioxide gas dissolver by single-pass.

Claim 20 (original) The method for producing carbonated water according to claim 18, wherein water is circulated through the first carbon dioxide gas dissolver.

Claim 21 (currently amended): The method for producing carbonated water according to ~~any one of~~ claims 18 to 20, wherein carbon dioxide gas is supplied to only the first carbon dioxide gas dissolver.

Claim 22 (currently amended): The method for producing carbonated water according to ~~any one of~~ claims 18 to 21, wherein the first carbon dioxide gas dissolver includes a membrane module.

Claim 23 (currently amended): The method for producing carbonated water according to claim 22, wherein the membrane module contains a hollow fiber membrane.

Claim 24 (original): The method for producing carbonated water according to claim 23, wherein the hollow fiber membrane is a three-layer composite hollow fiber membrane in which both faces of a thin non-porous gas permeation layer are sandwiched by porous layers.

Claim 25 (currently amended): The method for producing carbonated water according to ~~any one of claims 18 to 24~~, wherein the second carbon dioxide gas dissolver is comprised of a static mixer.

Claim 26 (original): The method for producing carbonated water according to claim 25, wherein the static mixer is a stator type and/or a Kenics type.

Claim 27 (currently amended): The method for producing carbonated water according to claim 25 ~~or 26~~, wherein a number of elements in the static mixer is 5 to 100.

Claim 28 (currently amended): The method for producing carbonated water according to ~~any one of claims 25 to 27~~, wherein an element diameter of the static mixer is 5 to 100 mm.

Claim 29 (currently amended): The method for producing carbonated water according to any one of claims 18 ~~to 28~~, wherein carbon dioxide gas is supplied to the first carbon dioxide gas dissolver at a specified flow rate.

Claim 30 (currently amended) The method for producing carbonated water according to ~~any one of claims 18 to 29~~, wherein water is supplied to the first carbon dioxide gas

dissolver at a specified flow rate.

Claim 31 (currently amended): The method for producing carbonated water according to ~~any one of claims 18 to 30~~, wherein a pressure increasing pump is disposed in an upstream of the first carbon dioxide gas dissolver and water pressurized by the pressure increasing pump is supplied to the first carbon dioxide gas dissolver.

Claim 32 (original): The method for producing carbonated water according to claim 31, wherein a flow switch is disposed in a line, through which water or carbonated water passes, and the pressure increasing pump is driven only when water or carbonated water exists in the line.

Claim 33 (currently amended): The method for producing carbonated water according to ~~any one of claims 18 to 32~~, wherein a temperature of generated carbonated water is in a range of 30 to 45°C.

Claim 34 (currently amended): The method for producing carbonated water according to ~~any one of claims 18 to 33~~, wherein concentration of free carbon in generated carbonated water is in a range of 800 to 1500 mg/L.